

Managing Stereoscopic Content For 3D-TV Viewing

PART 1

(Updated 4th May 2012)

Introduction

With the availability of 3D-Ready televisions at a reducing price, we can now consider small group, home viewing of our 3D work without the need to set up projectors or pass around a viewer of some kind. It was this, rather than the availability of broadcast High Definition (HD) 3D-TV or commercial Blu-ray HD 3D disks, that prompted me to purchase a 42" 3D Ready TV in the latter part 2010. Since then, I have converted many of my shows and video's for viewing in this way. If you are thinking along these lines, then I hope you will find this three part series of articles useful.

Before moving on, perhaps it will be helpful to pass on my experience and observations when buying a 3D-TV:-

Looking into the specifications of available TV sets, I was advised by the staff of a 'proper' TV shop that a Plasma, rather than LCD or LED set provided the better display. I was also advised that viewing would benefit from the TV display frequency being 600 cycles per second rather than the more common 200 cycles. I shall leave the technical debate alone, but having compared sets from four manufacturers, I fully accepted the advice and purchased a 42" Panasonic 'Viera' set.

Other features on my 3D-TV that influenced my decision were the presence of an SD Card and a USB slot in addition to the more familiar connections - HDMI, SCART, AV, etc. An inbuilt media player is also included; this means that my 3D content can be viewed directly from the connected storage device, an SD Card or Flash Drive for example. I now have the possibility to view 3D content directly from a connected Fujifilm W1 or W3 cameras, or from just the SD Card itself. With the help of my computer and free software - StereoPhoto Maker (SPM), on my computer, I can manipulate digital images from any source and view them on my 3D-TV using the inbuilt media player. I can browse individual images or run a slide show with variable slide display frequency and background music. I can also use an external media player to show Blu-ray, 3D movies, commercial or home-made.

Note: More recently, at least one 3D-TV manufacturer (LG) has launched a 3D-TV that uses 'Passive' (polarised) glasses, rather than the more usual 'Active' (shuttered) glasses; this is a feature that could affect your purchasing decision.

Overview

Part 1, (This file) will explain how we can view stereo images on our 3D-TV by plugging in the SD Card removed from your Fuji W1, or W3 camera. We shall also see how to convert individual or multiple stereo images, from any source, ready for transfer to an SD Card or Flash Drive for 3D-TV playback or use in other applications.

Part 2, will explain the alternative devices that may be used to play digital images or Audio Visual (AV) shows through your 3D-TV. We will look at the choice of Media Players, Blu-ray Players using the HDMI connection on our 3D-TV. We shall also take a quick look at the software needed to create AV shows for 3D-TV viewing and projection.

Part 3, will explain the key features of the software we might choose to create AV shows. In particular we explore how **Photodex ProShow** and **Magix Movie Edit** can be used to create files for flash drives and optical discs which can then be played with our choice of player. We shall be looking at the basic program settings for creating files that can be written to flash drives and optical discs.

Direct Connection

Although the Fuji W3 can be connected to an HDMI input of our 3D-TV, you will need to buy a special lead for this purpose. I would suggest the simplest route is to remove the SD Card from the camera (Fuji W1 or W3) and insert this into the SD socket on your 3D-TV. It is wise to try this at the retailers before purchasing your set. My own Panasonic 3D-TV recognises that an SD card, containing MPO stereo images, has been inserted and immediately displays these through the 3D-TV's media player; this then provides various viewing options including slideshow and background music. If your 3D-TV does not have an SD card slot, then look for a USB connection which should provide similar results. This, of course, will require you to transfer your MPO stereo images to a Flash Drive via a computer. Note that some 3D-TV sets may not work in this way, currently LG sets are known to be problematic and so the following workflow takes this into consideration.

With the latest version of SPM you can produce 3D-TV ready files as 'Side-by-Side' (SBS) or 'Above and Below (A/B) images using 'File' > Multi-Conversion. This conversion process will maintain your original file as you made it; aligned, cropped, resized and so on. The appropriate black borders will be added and the file saved all on one operation.

I shall now take you through the workflow for preparing your images, using a computer with StereoPhoto Maker (SPM) installed; **you will need the version 4.63b or later**. You have two choices of converted file formats, MPO or JPG. The MPO file format can be used in many 3D-TV sets and media players. The JPG format provides two options 'Side-by-Side' (SSB) or 'Above-Below' (A/B) which may be used for TV and other applications such as ProShow.

Multi-Conversion with StereoPhoto Maker (MPO workflow)

I will assume that you will have used StereoPhoto Maker (SPM), or some other application, to work on your images and you have saved them to a folder as stereo pairs; side-by-side (Fig 1.), above and below etc. You should now make sure that you have all the files you wish to convert for 3D-TV viewing, in a folder named to your liking.



Fig. 1 - Typical Side-by-Side image.

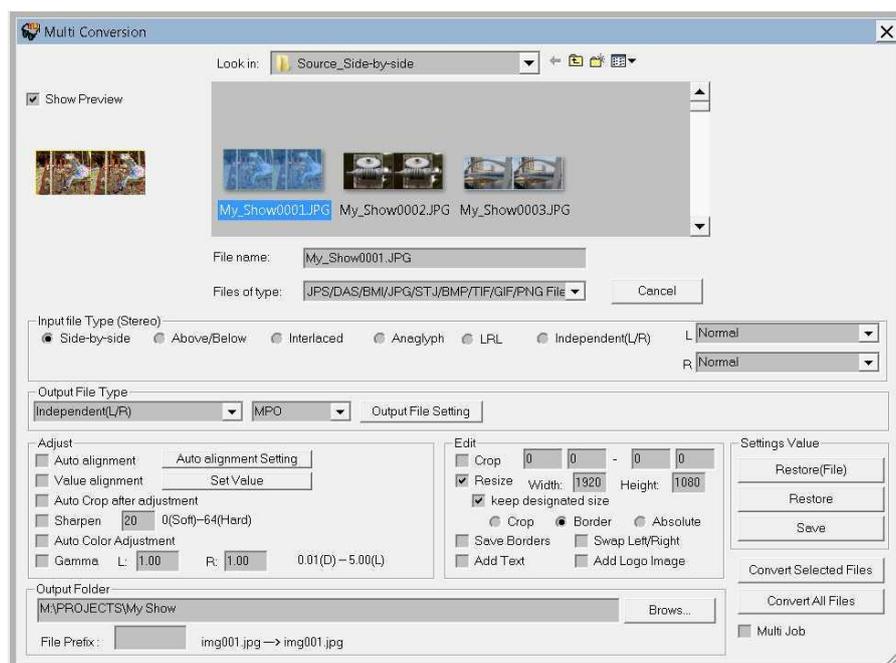


Fig. 2 - 'Multi conversion' dialogue for MPO files

Having opened SPM chose 'File' > 'Multi Conversion' (Fig 2.) check "Input File Type" (Side-by-Side etc.) for the files type in your source folder. Now select 'Output File Type' > Individual (L/R) then 'Output File Setting > MPO; this defines the format for 3D-TV compatible images.

Now check 'Resize' and key in 'Width' > 1920 and 'Height' >1080. We also need to check the check 'keep designated size' and select 'Border'.

You can now click on the 'Convert Selected Files' or 'Convert all Files' as you need.

This concludes the workflow for creating full high definition MPO stereo images which you can now transfer to a Flash Drive for viewing on your 3D-TV.

Multi-Conversion with StereoPhoto Maker (JPG workflow)

I will assume that you will have used StereoPhoto Maker (SPM), or some other application, to work on your images and you have saved them to a folder as stereo pairs; side-by-side (Fig 1.), above and below etc. You should now make sure that you have all the files you wish to convert in a folder named to your liking.

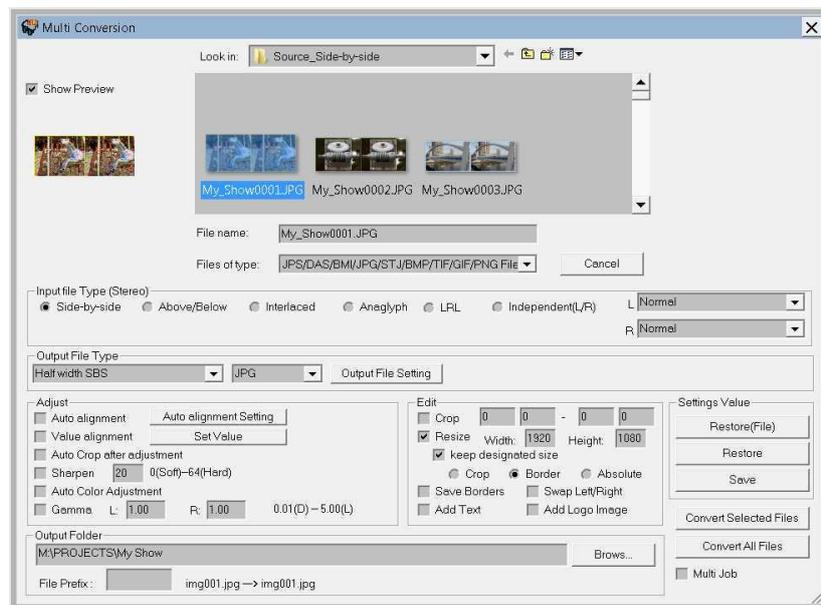


Fig. 3 - 'Multi conversion' dialogue for JPG files

Having opened SPM chose 'File' > 'Multi Conversion' (Fig 2.) check "Input File Type" (Side-by-Side etc.) for the files type in your source folder. Now select 'Output File Type' > 'Half width SBS' or 'Half height A/B' then 'Output File Setting > JPG; these defines a format useable on some 3D-TV sets or for building AV shows and videos.

Now check 'Resize' and key in 'Width' > 1920 and 'Height' >1080. We also need to check the check 'keep designated size' and select 'Border'.

You can now click on the 'Convert Selected Files' or 'Convert all Files' as you need.

This concludes the workflow for creating half width or half height JPG stereo files with an overall 16 x 9 aspect ratio at an HD resolution of 1920 x1080.